LEVELING KIT SUSPENSION

Assembly, Installation, Operation, and Maintenance Instructions

PART NUMBER	F25LL5
INSTALL TIME	2 HOURS

2019-2023 FORD RANGER 4WD

DEALER / INSTALLER	Provide a copy of these instructions to the end user of this product. These instructions provide important operating and safety information for proper usage of this product. Demonstrate the proper use of the product with the end user. Have the end user demonstrate that they understand the proper use of the product.
END USER	Read and follow all instructions included in this manual. Ask your Dealer / Installer for assistance if you do not understand the proper use of the product. Never remove any decals from the product. Failure to follow these instructions can result in injury or death.

TOOLS REQUIRED
BASIC HAND TOOLS
FLOOR JACK
JACK STANDS
ASSORTED METRIC & SAE SOCKETS
ALLEN WRENCHES
TORQUE WRENCH
DIE GRINDER W/CUTOFF WHEEL OR SAWZALL
COIL COMPRESSOR

PACKAGE CONTENTS	QTY
SHOCK SPACERS	2
3/8-16 X 1" HEX BOLTS	6
3/8" SAE WASHERS	6
3/8" SPLIT LOCK WASHERS	6
THREAD LOCKING COMPOUND	1

WARNINGS/SAFETY PRECAUTIONS

For technical assistance call: 1-866-638-4870 or email: support@TrailFX.com

READ THIS BEFORE YOU BEGIN INSTALLATION:

• Check all parts to the parts list above before beginning installation. If any parts are missing contact TrailFX tech and warranty team at 1-866-638-4870 and a replacement part will be sent to you immediately.

• Read all instructions thoroughly from start to finish before beginning the installation. If these instructions are not properly followed, severe frame, driveline and/or suspension damage may occur.

• Check your local city and state laws prior to the installation of this system for legality. Do not install if not legal in your area.

• Prior to the installation of this suspension system, perform a front-end alignment. Do not install this system if the vehicle alignment is not within factory specifications. Check for frame and suspension damage prior to installation.

• Use the provided thread locking compound on all hardware.

• **WARNING:** Installation of this system will alter the center of gravity of the vehicle and may increase rollover as compared to stock.

• Vehicles that run oversized tires should check ball joints, tie rod ends, pitman arm and idler arm every 2500 - 5000 miles for wear and replace as needed.

FOOTNOTES:

• This leveling kit will not work with factory air ride vehicles.

• Some models of trucks may not sit level after installation due to added accessories such as bumpers, toolboxes, cargo management, tow packages, etc.

Prior to installing this kit, with the vehicle on level ground, measure the height of your vehicle. This measurement can be recorded from the center of the wheel, straight up to the top of the inner fender lip. Record the measurements below.

LF: _____ **RF:** _____

LR: _____ **RR:** _____

INSTALLATION PROCEDURE

1. Disconnect the negative terminal on the battery. Jack up the front end of the truck and support the frame rails with jack stands. **NEVER WORK UNDER AN UNSUPPORTED VEHICLE!** Remove the front tires.

2. Using an 8mm & 10mm socket, remove the ABS line and brake line brackets from the knuckle. Save hardware. **(FIGURES 1-2)**.

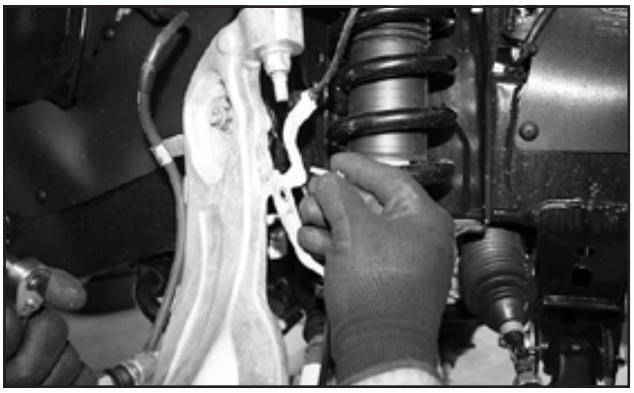

FIGURE 1 - STEP 2

FIGURE 2 - STEP 2

3. Remove the ABS sensor from the knuckle using an 8mm socket. Secure the sensor in the wheel well so it does not get damaged. **(FIGURES 3-4)**.

FIGURE 3 - STEP 3

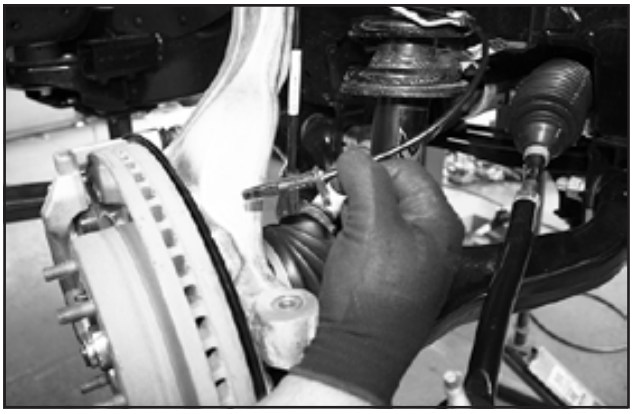

FIGURE 4 - STEP 3

4. Use a 15mm socket to loosen the tie rod nut. Using a hammer strike the knuckle to unseat the tie rod, then remove the tie rod from the knuckle. Save hardware. **(FIGURES 5-6)**.

FIGURE 5 - STEP 4

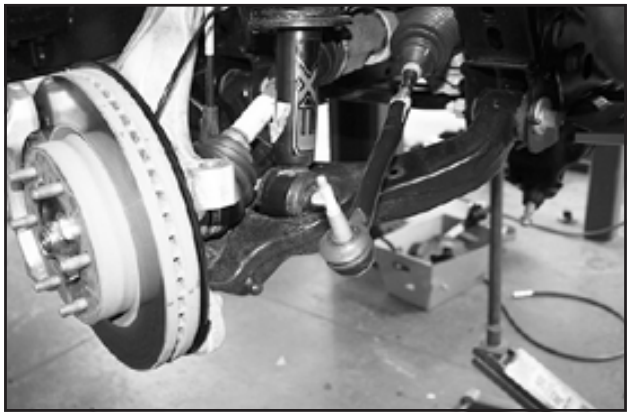

FIGURE 6 - STEP 4

INSTALLATION PROCEDURE (CONTINUED)

5. Using an 18mm socket, remove the sway bar end link nut attaching the link to the knuckle. Then, detach the link from the back side of the knuckle. Save hardware. **(FIGURES 7-8)**.

FIGURE 7 - STEP 5

FIGURE 8 - STEP 5

6. Unbolt the caliper from the knuckle and remove. NOTE: Secure it to the frame so it does not hang from the hose. Then, remove the brake rotor and set aside. (FIGURES 9-10).

FIGURE 9 - STEP 6

FIGURE 10 - STEP 6

7. Use a 35mm socket to remove the axle nut from the hub assembly. Save hardware. **(FIGURE 11)**.

8. Using a soft metal brass punch and hammer. Tap the axle shaft until its unseated from the hub assembly. **(FIGURE 12)**.

FIGURE 11 - STEP 7

FIGURE 12 - STEP 8

INSTALLATION PROCEDURE (CONTINUED)

9. Use an 18mm wrench to loosen the upper control arm ball joint nut. Strike the top of the knuckle to unseat the ball joint from the knuckle. Remove and save the nut. Make sure the CV axle is dislodged from the knuckle and let the knuckle rest to the side. **(FIGURES 13-15)**.

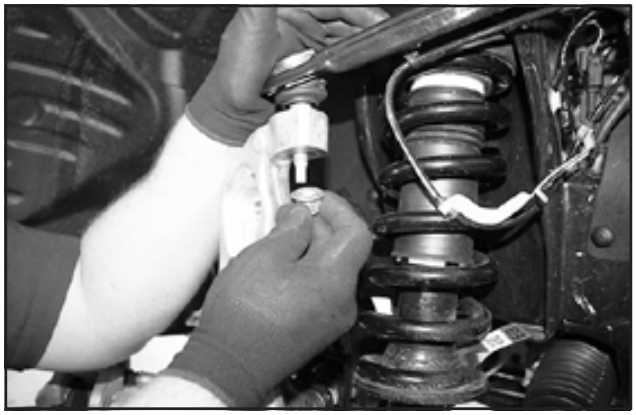

FIGURE 13 - STEP 9

FIGURE 14 - STEP 9

10. With a jack supporting the lower control arm. Use an 18mm socket to remove the two lower strut nuts on the bottom of the lower control arm. Save hardware. **(FIGURE 16)**.

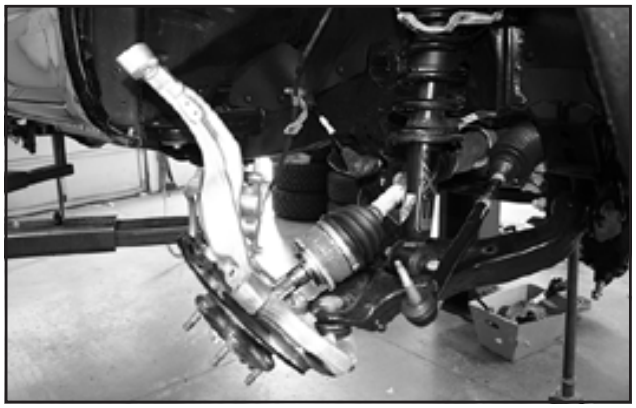

FIGURE 15 - STEP 9

FIGURE 16 - STEP 10

11. Loosen the lower control arm alignment cam bolts so the control arm can swing down freely. (FIGURE 17).

FIGURE 17 - STEP 11

INSTALLATION PROCEDURE (CONTINUED)

12. Remove the three strut nuts from the top mount and remove the strut assembly from the vehicle. Save hardware. **(FIGURES 18-19)**.

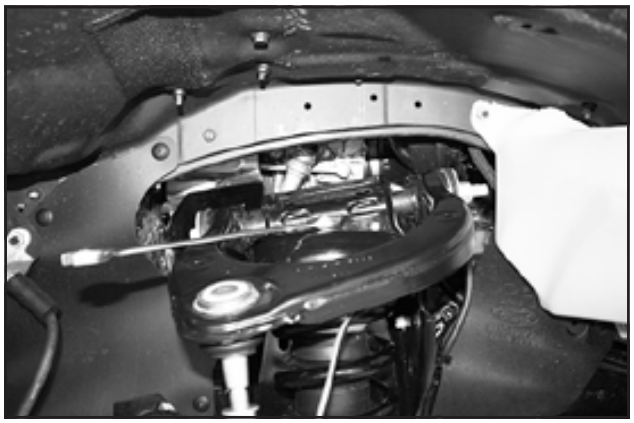

FIGURE 18 - STEP 12

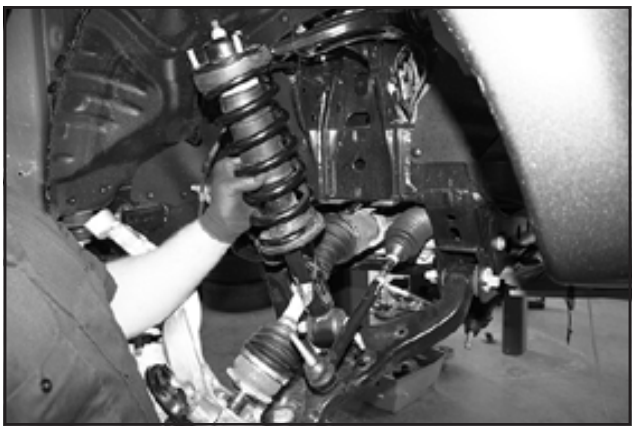

FIGURE 19 - STEP 12

13. Remove 1/4" from the end of all three upper strut assembly studs. Remove the locating pin from the factory strut top cap and discard. **(FIGURES 20-21)**.

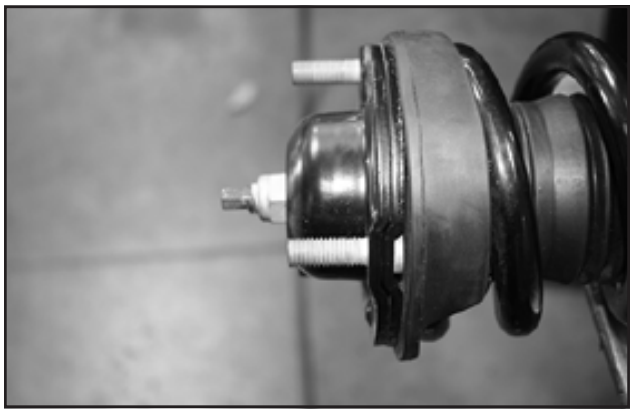

FIGURE 20 - STEP 13

FIGURE 21 - STEP 13

14. Using a coil spring compressor. Compress the coil just enough to rotate the top cap 60 degrees clockwise (looking at the top of the strut). **(FIGURE 22)**.

15. Install spacer onto the strut using the factory hardware. Torque to 53 ft-lbs. **(FIGURE 23)**.

FIGURE 22 - STEP 14

FIGURE 23 - STEP 15

INSTALLATION PROCEDURE (CONTINUED)

16. Reinstall the strut assembly using the supplied 3/8" X 1" bolts, lock washers and flat washer at the upper mount and factory hardware at the lower mount. Torque the 3/8" hardware to 45 ft-lbs and the factory lower hardware to 93 ft-lbs. **(FIGURES 24-25)**.

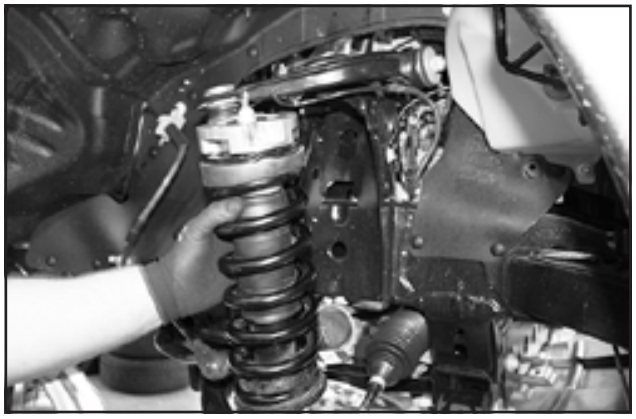

FIGURE 24 - STEP 16

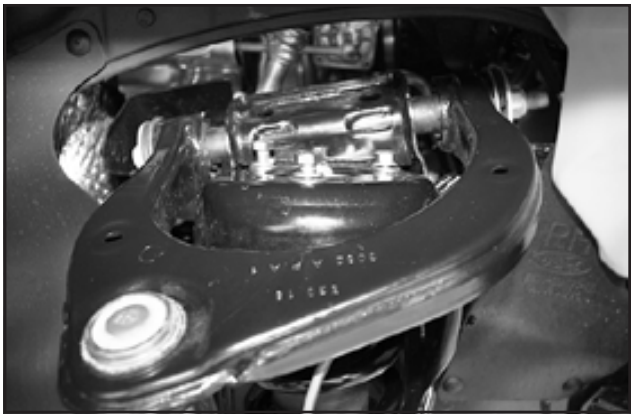

FIGURE 25 - STEP 16

17. Re-attach the upper control arm to the knuckle. Torque the ball joint nut to 32 ft-lbs. **NOTE: Make sure the CV axle is seated correctly into the hub assembly**.

18. Install the CV axle nut using a 35mm socket. Torque to 249 ft-lbs.

19. Reinstall the ABS sensor into the knuckle. Torque to 8 ft-lbs.

20. Reinstall both the ABS wire & brake line brackets to the knuckle using the factory hardware. Torque to 10 ft-lbs.

21. Reinstall the tie rod into the knuckle using the factory nut. Torque to 32 ft-lbs.

22. Reinstall the brake rotor and caliper. Torque caliper bolts to 148 ft-lbs.

23. Repeat steps 2-22 on the opposite side of the vehicle.

24. Reinstall the sway bar end link to the knuckle using the factory hardware. Torque to 32 ft-lbs.

25. Torque the lower control arm cam bolts to 148 ft-lbs.

26. Install tires and wheels and torque lug nuts to wheel manufacturer's specifications. Turn front tires left to right and check for appropriate tire clearance.

NOTE: Some oversized tires may require trimming of the front bumper & valance.

27. Recheck all bolts for proper torque.

28. Recheck brake hoses, ABS wires and suspension parts for proper tire clearance while turning tires fully left to right.

29. Take the vehicle to a qualified alignment shop to be aligned properly. Readjust headlight angle.

30. Check the fluid in the front and rear differential and fill if needed with factory specification differential oil. **Note: Some differentials may expel fluid after filling and driving. This can be normal in resetting the fluid level with the new position of the differential/s**.

Vehicles that will receive oversized tires should check ball joints, tie rod ends and all steering components every 2500-5000 miles for wear and replace as required.

RETORQUE ALL NUTS, BOLTS, AND LUGS AFTER 50 MILES AND PERIODICALLY THEREAFTER.

PRODUCT CARE/MAINTENANCE

1. Make sure to regularly check the vehicle suspension and steering components for any signs of wear or damage. It is important to regularly check components for any signs of wear or damage like ball joints, tie rods, links, and bushings. Replace any worn or damaged components you find on these inspections.

2. Inspect tires. Lifting your truck can put additional stress on your tires, so it is important to regularly check the tire pressure, tread depth and replace the tires when necessary.

3. Make sure to have your vehicle aligned post install and regularly check as making changes to the suspension will affect the alignment, which can lead to uneven tire wear and handling issues.

WARRANTY INFORMATION

Limited-Lifetime Warranty:

TrailFX and Keystone Automotive Operations Inc. make no guarantees or warranties for products not manufactured by Keystone Automotive Operations Inc. Such products are covered solely under any applicable warranty of the manufacturer. It is always recommended that the operating instructions and warranty instructions provided by the manufacturer are followed.

The Limited-Lifetime Warranty excludes the following TrailFX items: bushings, bump stops, ball joints, tie rod ends, limiting straps, cross shafts, heim joints and driveshafts. These parts are subject to wear and are not considered defective when worn. They are warranted for 60 days from the date of purchase for defects in workmanship.

Keystone Automotive Operations Inc. warrants its products to be free from manufacturing and material defects to the original purchaser for the length of warranty stated above from the date of retail purchase. If any products are found to have a manufacturing or material defect, the product will be replaced or repaired at the option of TrailFX and Keystone Automotive Operations Inc. with proof of purchase by the original purchaser. The original purchaser shall pay all transportation and shipping costs associated with the return of the defective product and the defective product shall become the property of Keystone Automotive Operations Inc.

This Warranty applies to Keystone Automotive Operations Inc. products used for individual and recreational purposes. Commercial usage of the Keystone Automotive Operations Inc. products limits the warranty to 90 days from the date of purchase.

This Warranty applies only to Keystone Automotive Operations Inc. products which are found to be defective in manufacturing or material. This warranty does not apply to normal wear and tear of the finish placed on Keystone Automotive Operations Inc. products.

TrailFX and Keystone Automotive Operations Inc. are not responsible for any labor costs incurred for removal or replacement of the defective product.

TrailFX and Keystone Automotive Operations Inc. are not responsible for repair or replacement of any product under the limited warranty where the product was improperly installed, misapplied, altered, abused, neglected, overloaded, misused, or damaged as a result of an accident, including any use of the product not in accordance with all products operating and safety instructions.

Without limiting the generality of the foregoing, TrailFX and Keystone Automotive Operations Inc. shall under no circumstances be liable for any incidental or consequential loss or damage whatsoever arising out of, or in any way relating to any such breach of warranty or claimed defect in, or non-performance of the products. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

CONTACT US

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